EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON BUERGER ALLEN EXERCISE IN TERMS OF PRACTICE TO PREVENT VARICOSE VEINS AMONG PETROL STATION WORKERS, KANYAKUMARI DISTRICT.

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ABSTRACT:

This study was under taken "to assess the efficacy of structured teaching program on Buerger Allen Exercise in terms of practice to prevent varicose veins among petrol station workers, Erode, Tamil Nadu". Quasi-experimental one group pre-test post-test design without control group was used. The study was conducted Petrol stations at Kanyakumari district among petrol station workers. Samples were selected by Non-probability convenient sampling method. The data analysis was done by using descriptive statistics and inferential statistics. Out of 120 samples, 36 workers were having symptoms of varicose veins and the remaining 84workers were not having symptoms of varicose veins.

Regarding practice scores on Buerger Allen exercise to prevent varicose veins, in pre-test majority of them 58(47%) had poor practice, 42(38%) had fair practice, 14(8%) had good practice and 6(7%) had very good practice scores. Whereas in post- test, majority of them 28(18%) had good practice, 66(57%) had very good practice, 22(13%) had fair practice and 4(12%) had poor practice scores after practicing Buerger Allen exercises. In pre-test, the mean practice score was 12.12 and standard deviation was 4.709 whereas in post-test, the mean score was 28.12and standard deviation was 2.768. The paired 't' calculated value is 28.625, which is greater than table value 2.014 at $p<0.05$ level. It proves that there is a very highly significant difference between pre -test and post- test practice scores at $p<0.001$. The statistical data shows that there is significant difference in practice scores between pretest and posttest regarding prevention of varicose veins, which indicates that the Structured Teaching Program on Buerger Allen exercise among petrol station workers was effective.

Key Words: *Varicose veins, Practice of Buerger Allen exercises, STP*

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INTRODUCTION:

People who are involved with prolonged sitting or standing in their daily activities have an increased risk of developing varicose veins. Thus, the weight of the blood continuously press against the closed valves causes them to fail, leading to distension in the vein.

Buerger-Allen exercise - Specific exercises intended to improve circulation to the feet and legs. The lower extremities are elevated to a 45-to-90-degree angle and supported in this position until the skin blanches (appears dead white). The feet and legs are then lowered below the level of the rest of the body until redness appears (care should be taken that there is no pressure against the back of the knees); finally, the legs are placed flat on the bed for a few minutes. The length of time for each position varies with the patient's tolerance and the speed with which color change occurs. Usually the exercises are prescribed so that the legs are elevated for 2 to 3 minutes, down 5 to 10 minutes and then flat on the bed for 10 minutes.

Buerger's exercise or Buerger-Allen exercises (BAE) was published for the first time by Leo Buerger in 1924 then modified by Arthur Allen to be a postural treatment option that is low cost and effective with low risk, for patients with lower limb arterial insufficiency. It is considered a conservative treatment for peripheral vascular disease, are active free exercises depending on the effect of the gravity on the smooth muscles of the valves. The exercises consist of leg elevation from 35-90 degrees followed by the dependency of the leg and finally resting with the leg in the horizontal position, aimed to improve leg and feet circulation.

Researcher personally observed during the clinical experience many factory workers admitted with the occurrence of varicose veins and most of them were unaware of the disease condition .Many had preliminary symptoms like pain, night cramps managed by taking analgesics without any consultation. The investigator found that the petrol station workers are not having adequate practice regarding varicose veins and its preventive measures, thus the investigator felt the need to educate the workers to prevent varicose vein from the primary stage Hence, the investigator planned to teach the workers regarding varicose vein and to demonstrate Buerger Allen exercise. Also, decided to assess the effectiveness of practice of Buerger Allen exercise to improve the peripheral perfusion to prevent varicose vein.

Overall,

- Buerger exercises are considered important prophylactic exercises for diabetic patients to improve circulation and control problems with diabetic foot later on.
- Reduce peripheral neuropathy symptoms with diabetic patients.
- Promote collateral blood circulation.
- Improve skin pressure perfusion.
- Improve peripheral circulation.
- Reduce necrosis period, swelling.
- Improve walking ability.
- Post-operative after orthopedic surgeries, and gynecological surgeries, to improve local circulation.

OBJECTIVES

a) To assess the level of prevalence of varicose veins among petrol station workers
b) To assess the level of practice on prevention of varicose vein among petrol station workers
c) To evaluate the effectiveness of Structured Teaching Program on Buerger Allen exercise for prevent varicose veins among petrol station workers

HYPOTHESES

All hypotheses are tested at 0.05level of significance.

H_1: There will be a significant difference between the level of pretest and posttest practice scores regarding prevention of varicose vein among petrol station workers

MATERIALS AND METHODS:

Research Approach

The research approach used for the study was a quantitative approach.

Research Design

The investigator selected Quasi-experimental one group pre-test post-test design without control group to evaluate the effectiveness of Structured Teaching Program on Buerger Allen Exercise in terms of practice to prevent varicose vein among petrol station workers in Kanyakumari district, Tamil Nadu.

Research Setting: The study was conducted in petrol banks in Kanyakumari district, Tamil Nādu.

Samples: The data were collected over a period of 6 months with 120 petrol station workers.

Data Collection Tools: The instruments used for the study were Baseline Proforma & Practice Checklist

Data Collection Method: The ethical clearance for the study was obtained from the Institutional Ethics committee. A prior formal permission was obtained from the authority. Informed consent from the subjects after explaining the purpose of the study was obtained. Samples were selected using simple random sampling with lottery method who met the inclusion criteria**.** Pre-test was conducted using checklist on practice about prevention of Varicose Vein. Structured teaching programme on Buerger Allen exercise with demonstration was administered to the petrol station workers on the same day. After one month, post-test practice was assessed using the same checklist.

Content Validity & Reliability:

The developed questionnaire and STP and the checklist were submitted to 9 experts in the medical and nursing field for opinion on relevance and appropriateness of the tool. Reliability of the tool was checked by using pilot study prior to data collection. Test – retest method was used to assess the reliability of the tool.

Data Analysis:

The data analysis was done by using descriptive statistics and inferential statistics. The descriptive statistics used for data analysis were the percentage, mean and standard deviation and inferential statistics was paired "t" test.

Table .1: Frequency and percentage distribution of socio demographic variables among workers. N=120

S.N0	Demographic variables	F	%
1.	**Age(in years)**		
	a. 21-25	66	55%
	b. 26-30	42	35%
	c. >30	12	10%
2.	**Sex**		
	Male	69	80%
	Female	24	20%
3.	**Educational Qualification**		
	b. Primary education	14	12%
	c. Secondary education	18	15%
	d. Higher Secondary	62	52%
	e. Graduate	26	21%
4.	**Monthly Income (in Rs)**		
	a. < 10000	34	28%
	b. 10001-15000	64	53%
	c. >15000	22	19%
5.	**Type of diet**		
	a. Vegetarian	12	10%
	b. Non –Vegetarian	108	90%
6.	**Bad Habits**		
	a. Alcoholism	46	38%
	b. Smoking/Tobacco use	36	30%
	c. No bad habits	38	32%
7.	**Duration of Work/day**		
	a. 8 hrs/day	28	23%
	b. 10hrs/day	76	63%
	c. >10 hrs/day	16	14%
8.	**Work Experience**		
	2years – 5years	86	72%
	>5years	34	28%
9.	**From whom you have received the general information about health**		
	a. Health care personnel	18	15%
	b. Newspaper/TV	10	8%
	c. Relatives/friends	14	12%
	d. None	78	65%

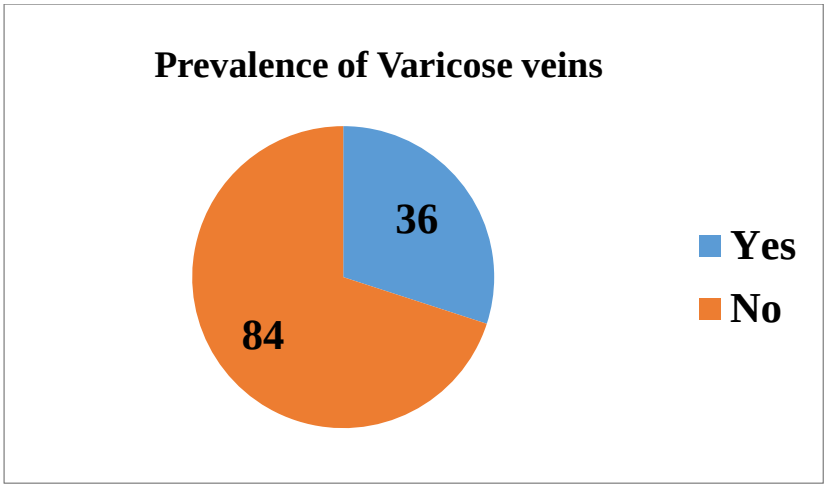

Fig. 1: Prevalence of Varicose veins among Petrol station workers

Table – 2: Distribution of pre-test and posttest practice scores regarding Buerger Allen exercise to prevent varicose veins among Petrol station workers

. PRACTICE SCORES	PRE- TEST		POST -TEST	
	Frequency (F)	Percentage (%)	Frequency (F)	Percentage (%)
Poor	58	47%	4	12%
Fair	42	38%	22	13%
Good	14	8%	66	57%
Very Good	6	7%	28	18%
Total	**120**	**100%**	**120**	**100%**

Table 3: Efficacy of structured teaching programme on Buerger Allen exercise in terms of practice scores to prevent varicose veins among Petrol station workers N=120

Practice	Mean	Standard deviation	't' calculated value	't' Table value	Significance
Pre - test	12.12	4.709	**28.625**	**2.014**	**p<0.05**
Post - test	28.12	2.768			**S*= significant**

DISCUSSION:

This study was under taken "to assess the efficacy of structured teaching program on Buerger Allen Exercise in terms of practice to prevent varicose veins among petrol station workers, Kanyakumari district, Tamil Nadu". The discussion of the present study is based on findings obtained from descriptive and inferential statistical analysis of collected data.

Regarding practice scores on Buerger Allen exercise to prevent varicose veins, in pre-test majority of them 58(47%) had poor practice, 42(38%) had fair practice, 14(8%) had good practice and 6(7%) had very good practice scores. Whereas in post- test, majority of them 28(18%) had good practice, 66(57%) had very good practice, 22(13%) had fair practice and 4(12%) had poor practice scores after practicing Buerger Allen exercises.

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CONCLUSION:

The study shows that the buerger Allen exercise was an effective intervention in prevention of varicose veins for people who doing jobs long time in standing positions.

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